77359/002.623

Claims

1. A method of isolating nucleic acid and protein from the same sample, said method comprising contacting said sample with solid supports, wherein nucleic acid and protein components contained in said sample become bound to distinct solid supports.

2. The method of claim 1, wherein both DNA and RNA are bound to the same solid support.

3. The method of claim 1, wherein DNA and RNA are bound to distinct solid supports.

4. The method of claim 3, wherein DNA and RNA are bound to different solid supports in separate steps.

5. The method of any one of claims 1 to 4, wherein RNA and protein, or DNA and protein, or DNA, RNA and protein are isolated from the same sample.

6. The method of claim 5, wherein said RNA is mRNA.

7. The method of claim 5 or 6, wherein said DNA is genomic.

8. The method of any one of claims 1 to 7 wherein the total RNA and/or the total DNA is isolated.

9. The method of any one of claims 1 to 7 wherein the total nucleic acid component is isolated.

10. The method of any one of claims 1 to 9 wherein the total protein component is isolated.

11. The method of any one of claims 1 to 10, wherein said sample is a food or allied product, or is a clinical, environmental or biological sample.

12. The method of any one of claims 1 to 11, wherein prior to contacting said sample with said solid supports, the sample is subjected to a preliminary treatment step to free the nucleic acid and/or protein components from structures or entities in which they may be contained.

13. The method of any one of claims 1 to 12, wherein prior to contacting said sample with said solid supports, the sample is subjected to a cell isolation procedure.

14. The method of claim 13, wherein one or more particular cell populations are specifically isolated.

15. The method of any one of claims 1 to 14, wherein the sample, or a cell population isolated therefrom, is subjected to a cell lysis step prior to contacting said sample with said solid supports.

16. The method of claim 15, wherein cell surface proteins of cells within or isolated from said sample are subjected to an *in vitro* modification procedure prior to the cell lysis step.

17. The method of any one of claims 1 to 16, wherein the sample is not divided at any stage of the method.

18. The method of any one of claims 12 to 16, wherein the sample is divided after cell isolation and/or lysis or after said preliminary treatment step.

19. The method of any one of claims 1 to 18, wherein said sample is contacted with said solid supports sequentially or simultaneously or in parallel.

20. The method of claim 19, wherein in a first step DNA is isolated from said sample, in a second step RNA is isolated from said sample and in a third step, protein is isolated from said sample, and wherein said steps may be performed in any order.

21. The method of any one of claims 1 to 20, wherein DNA is isolated on a support carrying surface carboxyl groups.

22. The method of any one of claims 1 to 21, wherein DNA is isolated by binding to a solid support, in the presence of a detergent.

23. The method of any one of claims 13 to 21, wherein cell lysis and nucleic acid or DNA binding to a solid support occur simultaneously or concomitantly.

24. The method of any one of claims 1 to 23, wherein RNA is isolated using an RNA-specific capture-probe carried by or attached to, or capable of binding to said solid support.

25. The method of claim 24, wherein said capture probe is or comprises a dT oligonucleotide or dU oligonucleotide.

26. The method of any one of claims 1 to 25, wherein protein is isolated using an appropriate binding partner/ligand carried by or attached to or capable of binding to said solid support.

27. The method of any one of claims 1 to 25 wherein protein is isolated using a solid support having a surface capable of effecting a chromatographic interaction.

28. The method of any one of claims 1 to 27, wherein said solid supports comprise particles.

29. The method of claim 28, wherein said particles are magnetic particles.

30. A kit for isolating nucleic acid and protein from the same sample comprising:

(a) a solid support suitable for binding nucleic acid components;

(b) a solid support suitable for binding proteins, wherein said supports of a) and b) are distinct solid supports.

31. The kit of claim 30, wherein the solid support of (a) comprises a support which is selective for binding DNA or RNA or both types of nucleic acid.

32. The kit of claim 30 or 31 wherein the kit also comprises (c) a solid support suitable for isolation of a specific cell population and/or (d) means for lysing said cells, and/or (e) a means for detecting the nucleic acid and/or protein.

33. Use of the method of any one of claims 1 to 32 for the analysis and/or comparison of mRNA and/or protein expression and/or the correlation thereof to genomic information.